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Determinant of Extension Agent's Skills Towards Work Performance As Perceived By Productive Cocoa Farmers In Malaysia

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Abstract

Work performance refers to the outcome or behaviour exhibited by extension agents (EA) to perform certain job activities over a specific period. Using Transfer of Technology (ToT) and Human Resources Development (HRD) competencies, the work performance (WP) of EAs was assessed. This research aimed to determine which skills, contribute the most towards WP of EAs perceived by productive cocoa farmers (PCF) in Malaysia and determine the most performed EA between areas. This study derived from the Iceberg Model of competencies and employed quantitative methods with a well-structured questionnaire. A sample of 353 and 315 PCFs, for the Peninsular and East Malaysia, respectively, who have attended two training programs exposed by EA and have cultivated cocoa for five to seven years. The respondents were chosen through a multi-stage sampling method. Descriptive and multiple regression analyses were used. The results revealed that social, leadership, technical, and decision-making support skills from Peninsular Malaysia have significantly contributed to the WP. Social skill is the factor that contributes the most to the WP of EA in Peninsular Malaysia. For East Malaysia, only three skills, namely, decision-making support, technical, and leadership skills contributed to WP significantly. Decision-making support skill is the highest contributing skill to WP of EA in East Malaysia. Then, the EA in Peninsular Malaysia performed better than Eastern Malaysia because the R^2 value for Peninsular Malaysia is greater than the of Eastern Malaysia, which is 0.637 and 0.521, respectively. In conclusion, MCB agency may focus on relevant skills by area to improve the WP of their EA.

1. INTRODUCTION

Cocoa is one of the main crops grown by smallholders in east Malaysia (Peninsular Malaysia) and the eastern part (Sabah and Sarawak). The cocoa producers' productivity target is 1.5 MT/Hectarage/Year. According to the potential yield theory of Corley (1967), the annual productivity of cocoa beans can be 11.0 MT/ Hectarage. However, Lee and Chong (1987); and Mohd Yusof, Lamin, Lee, and Rosman (2000) suggested that cocoa bean yields ranging from 2.0 to 6.8 MT/ Hectarage could be achieved with well-managed cocoa practices. However, annual cocoa production in the peninsular and East Malaysia declined in 2017, with production falling from 0.109 MT/Hectarage in the previous year to 0.045 MT/Hectarage (Table 1). This figure shows that the average cocoa productivity of the peninsular and East Malaysia is far from the national cocoa productivity. Figure 1 shows a clear pattern of decline in cocoa productivity between 2007 and 2017 in both regions. The decline in the production of cocoa beans in Malaysia is due to several factors such as agronomic reasons, soil fertility, good farming practices of farmers, market price volatility, and other related conditions. Due to good farming practices of farmers, farmers may lack access to the latest agricultural knowledge and techniques for cocoa farming. The lack of technical knowledge among cocoa farmers underscores the importance of skilled and well-trained extension agents. Skilled extension agents are able to bridge the knowledge gap, adapt their approach to farmers' needs, and ensure the successful adoption of modern techniques to help increase cocoa production. This is where the importance of work performance is needed by each extension agent.

The work performance of cocoa extension agents and its direct impact on the productivity of cocoa farming is currently facing challenges. There is a need to investigate the factors influencing the effectiveness of cocoa extension agents in delivering support and knowledge to cocoa farmers, and how these factors affect the overall productivity and sustainability of cocoa farming.

However, this study focuses on the work efficiency (WP) of technology transfer extenders, where their work efficiency would be reflected by cocoa bean production productivity. Since extension workers play an

essential role in improving the knowledge and skills of farmers, this study examines the validity of extension workers (EA) in both regions.

Table 1: Annual Cocoa Productivity by Region in Malaysia

Year	Annual Cocoa Productivity (MT/Hectarage)		
	Peninsular Malaysia	East Malaysia	Malaysia
2007	3.594	0.522	1.236
2008	3.208	0.423	1.306
2009	3.272	0.364	1.006
2010	2.485	0.335	0.779
2011	0.474	0.168	0.221
2012	0.499	0.262	0.310
2013	0.260	0.191	0.203
2014	0.238	0.142	0.166
2015	0.176	0.072	0.095
2016	0.160	0.085	0.101
2017	0.109	0.045	0.059

Source: Malaysian Cocoa Board Statistics (2018b)

There is an urgent need to enhance the performance of the EA so that farmers can adopt the new technologies and developments developed by the Malaysian Cocoa Board (MCB). This study defines technology transfer (ToT) competencies, human resource development (HRD) and work performance (WP) competencies.

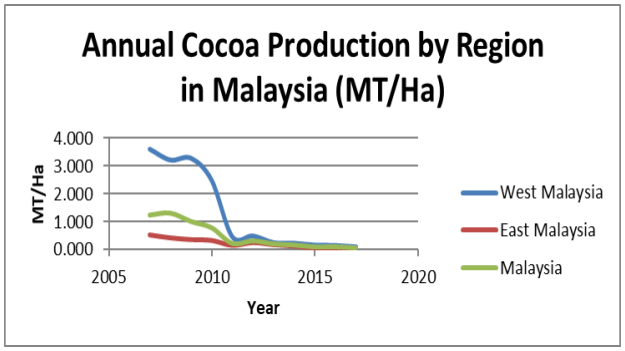

Figure 1: Annual cocoa productivity of smallholders by region in Malaysia

1.1 Work Performance

Job performance refers to the results or behavior achieved by employees to perform specific tasks over a period (Ali, 2008). According to Khalil (2008), efficiency has also been called output, efficiency, motivation, individual productivity, organizational efficiency, production, profitability, cost-effectiveness, competitiveness, and work quality. Karbasioun et al (2007) mentioned that job performance is believed to be related to competencies. Therefore, competencies can be integrated as part of job performance. Thus, according to this study, work performance can be evaluated based on the ToT and HRD skills of cocoa growers.

1.2 Competency

Competence is defined as the knowledge, skills, abilities, characteristics, and behaviors that enable a person to perform a task in a particular task or workplace (Wichita and Jintawee, 2007). Competence is the ability to demonstrate a system- and function-based arrangement of behaviors in achieving performance goals (Rohaila, Faridah, & Norasmah, 2007). In contrast, a competency model is a list of competencies derived from observing an employee's satisfactory or exceptional performance in a specific job. The model recognizes the need for skilled workers to improve their current job performance or prepare for other tasks. The competency model can also be useful in competency gap analysis, where the existing and required competencies of individuals or institutions are compared. An individual expansion plan could be designed to reduce the gap. Important variables to consider when developing a competency model are the use of glossaries, and methods of identifying and verifying competencies such as surveys, interviews, and focus groups (Draganidis and Mentzas, 2006).

1.3 Iceberg Model

The Iceberg Model of competencies is used to explain the relationship between skill and knowledge (Figure 2). Consequently, the Iceberg Model of Spencer and Spencer (1993) will only show the visible surface competencies to measure extension agent's work performance. The invisible competencies (social role, self-image, traits and motives) are not easier to form than visible competencies. However, both competencies should be given the same focus to ensure high performance. According to Rahim (2008; 2010) the extension agent profession is defined as a continuing process of getting useful information to farmer and helping them acquire knowledge, skills and attitudes to use information and technology to increase their productivity effectively. The extension agents who are qualified and competent know their roles and perform as the whole extension process is dependent on them to transfer information to farmers. As mentioned by Rahim's (2010) study, extension agents normally have two basic job descriptions or chores – ToT and HRD. They are also required to perform both tasks in achieving their agency objectives. However, as it turns out, EAs spend more time on ToT and less on HRD chores (Rahim, 1995; 2005a & 2005b). When this happens, the EA work performance to reach the farmers' productivity is not achieved or reached a minimum level. Rahim (2010) shared that ToT and HRD competencies are interrelated and influence EA's work performance. Therefore, Iceberg Model corresponds to determine the competency of ToT and HRD skills towards EA's work performance.

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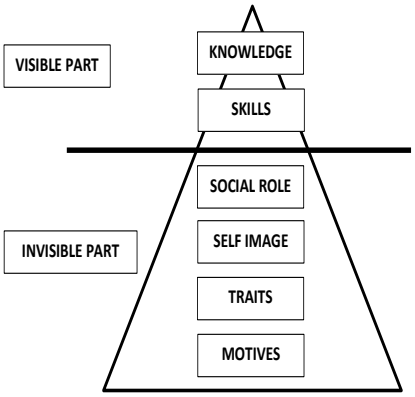

Figure 2: Iceberg Model of Competency (Source: Spencer and Spencer, 1993)

1.4 Transfer of Technology (ToT)

ToT has been defined as the transfer of technology from its place of origin or research groups for widespread dissemination among many people and places. This can happen between universities, from universities to companies, from large companies to smaller companies, from governments to companies, and across borders, both formally and informally, overtly, and covertly (Grosse and Robert, 1996). ToT competencies are one of the tasks required to assess EA performance. Important components of ToT competencies are technical skills, technology transfer skills, and technology evaluation skills (Rahim, 2010). Based on the iceberg model of Spencer and Spencer (1993), the competence of ToT can be used to measure the competence of extensions (Rahim, 2010). These variables are used in these studies to define ToT competencies in terms of technical skills, technology transfer skills, and technology evaluation skills.

1.5 Human Resources Development (HRD)

Later, HRD was defined as a process that facilitates and ensures the achievement of human competencies necessary to perform specific activities or tasks aimed at achieving desired results (Muchira and Kiambati, 2015). The agricultural extension can be seen as HRD and is considered very important to support change processes (Karbasioun et al., 2007). Rahim (2010) calls an important part of human rights development competencies, leadership, decision support, and social skills. All aspects of HRD are important factors in helping clients achieve success. Therefore, HRD is responsible for determining the performance of extension agents in this study.

1.6 Conceptual background

To determine the extent of technology transfer from EA to smallholders, it is necessary to determine the effectiveness of EA in each area. This study was conducted by collecting data from 353 and 315 cocoa farmers (PCF) in Peninsular Malaysia and East Malaysia, respectively. The aim is to show that it is possible to compare labor efficiency in regions using regression analysis. The selected respondents attended two training programs organized by MCB EA and have been growing cocoa for five to seven years. Therefore, the MCB office can focus on relevant skills by area to improve the EA work program. As a result, the Iceberg Competency Model was used as the basis for measurement.

The objectives of the study are:

i. To clarify which skills contribute most to the views of the most productive cocoa farmers on EA labor input in the peninsula and East Malaysia.
ii. Determines the most executed EA between regions.

2. MATERIALS AND METHODS

The present study was conducted in East and Peninsular Malaysia. The target population was selected based on productive cocoa farmers who have been in extension activities conducted by MCB extension agents for at least five years and at least two training sessions. This study used a multistage technique (cluster and stratified random sampling). A list of cocoa producers in each region was obtained from the MCB. A total of 353 and 315 cocoa farmers from the Peninsular and East Malaysia were selected based on distributed questionnaires (Krejcie and Morgan, 1990).

2.1 Research design

This study used a comparative descriptive design. ToT and HRD competency consist of three skills; technology skill, technology delivering skill, and technology evaluation skill, which serve as the independent variables, whereas work performance functions as the dependent variable. A comparison of EA's work performance was determined using the percentage of variation (R^2) (Munifah, 2018).

2.2 Instrument and measurement

An established questionnaire by Motolani, Hassan, Oluwatoyin, & Kasin (2017) was used to collect data from the respondents. A six-point scale option (1 = strongly disagree to 6 = strongly agree) was used to measure the respondent's perception of the given statements in the questionnaire. The six-point scale gives better data for human resources and managers. Furthermore, if a neutral is desired at any point, the "slightly agree" and "slightly disagree" can be averaged together. The items were constructed based on the objectives and research questions of the study.

2.3 Data analysis

SPSS statistics version 26.0 was used for data analysis. A descriptive analysis was made of profiles of respondents and facilities with frequency and percentage

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values. Regression analysis was performed and the capabilities that significantly affect the performance of MCB extensions in both areas were identified. Differences were found in both regions and classified as significant at less than 0.05. A significant value less than the P value at the 95% confidence level was written as (P 0.05), indicating that the effect is not significant. Next, looking at the highest beta value (ß value) can determine the most important capabilities that affect the effectiveness of an extension agent. The most performed interregional expanders were determined by comparing the R^2 between multiple regression results.

3. RESULT AND DISCUSSION

3.1 Demographic Profile of Respondents and Farm

The demographic profile of the respondents and farm are stated in Table 2 and Table 3, individually. Descriptive analysis was used and resulted in the determination based on frequency and percentage of respondents' distribution.

Areas: This study used quantitative methods where structured questionnaires were distributed to 353 and 315 productive cocoa farmers in Peninsular and East Malaysia, respectively.

Gender: Most productive cocoa farmers in Peninsular Malaysia and East Malaysia are men, with 88.6% and 85.4%, respectively. In comparison, women are only 11.2% and 14.6%, respectively.

Age: The results showed that the most productive cocoa growers in Peninsular Malaysia are 60 years and above (66.3%). In contrast, East Malaysia's highest percentage of productive cocoa growers was around 51 to 60 years, with 33.0%. The data indicated that productive cocoa producers in East Malaysia are younger than in Peninsular Malaysia.

Race: This study showed that 48.8% of productive cocoa producers in Peninsular Malaysia are Malays, followed by indigenous people (36.0%), Chinese (15.3%), and Indians (0.3%). However, in East Malaysia, the Kadazan people are the majority productive cocoa farmers at 40.0%, followed by the Ibans at 21.9%. The other races of productive cocoa farmers are the Malays (17.5%), other races (8.6%), Murut ethnic (5.1%), Bidayuh ethnic (2.9%), Chinese (2.5%), indigenous people (1.3%) and ultimately the Bajau ethnic (0.3%).

Range of Income: Most productive cocoa producers in Peninsular Malaysia (49.6%) earn a monthly income around RM1,000 to RM1,999, whereby in East Malaysia, 69.8% of the productive cocoa producers have a monthly income around RM1,000 and below.

The Focus of Work: In Peninsular Malaysia, 85.3% of them cultivate cocoa on a part-time basis, while in East Malaysia, 51.7% are full-time workers and depend on cocoa as their main source of income.

Table 2: Respondent information

Items	Peninsular Malaysia		East Malaysia		Frequency	Percentage (%)
	F	%	f	%		
Area	353	52.8	315	47.2	668	100.0
Gender						
Male	313	88.7	269	85.4	582	87.1
Female	40	11.3	46	14.6	86	12.9
Age						
≤30	1	0.3	15	4.7	16	2.4
31-40	6	1.7	44	14.0	50	7.5
41-50	34	9.6	66	21.0	100	15.0
51-60	78	22.1	104	33.0	182	27.2
≥ 61	234	66.3	86	27.3	320	47.9
Race						
Malay	171	48.4	55	17.5	226	33.8
Chinese	54	15.3	8	2.5	62	9.3
Indian	1	0.3	0	0.0	1	0.1
Orang Asli	127	36.0	4	1.3	131	19.6
Kadazan	0	0.0	126	40.0	126	18.9
Murut	0	0.0	16	5.1	16	2.4
Bajau	0	0.0	1	0.3	1	0.1
Iban	0	0.0	69	21.9	69	10.3
Bidayuh	0	0.0	9	2.9	9	1.3
Others	0	0.0	27	8.6	27	4.0
Income per month						
< RM1,000	114	32.3	220	69.8	334	50.0
RM1,000 - RM1,999	175	49.6	73	23.2	248	37.1
RM2,000 – 2,999	45	12.7	14	4.4	59	8.8
RM3,000 – 3,999	16	4.5	5	1.6	21	3.1
≥ RM4,000	3	0.8	3	1.0	6	0.9
Types of Work						
Full time	52	14.7	163	51.7	215	32.2
Part time	301	85.3	152	48.3	453	67.8
Level of Education						
Complete Primary School	286	81.0	194	61.6	480	71.9
Complete Secondary School	62	17.6	97	30.8	159	23.8
Certificate	3	0.8	19	6.0	22	3.3
Diploma	1	0.3	3	1.0	4	0.6
Bachelor/Degree	1	0.3	2	0.6	3	0.4

Education Level: From the finding, most productive cocoa operators in Peninsular Malaysia and East Malaysia have primary school education at 81.0% and 61.6%,

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respectively. It is followed by 17.6%, and 30.8% of cocoa operators in Peninsular Malaysia and East Malaysia have high school certificates. Those with certificates, diplomas, and bachelor/degrees in both regions only accounted for 1.0% and less.

Planting Start Year: The respondents grew cocoa around 2006 to 2010, accounting for 69.4% in Peninsular Malaysia and 83.3% in East Malaysia.

Number of Clone Planting: A majority of 78.8% of cocoa farmers had followed the MCB planting recommendation of planting three to five cocoa clones on each farm. In contrast, in East Malaysia, most productive cocoa farmers (58.1%) plant three or fewer clones in their farms, indicating that the cocoa farms in East Malaysia do not abide by the recommendations set by the MCB.

Planting Area (Hectarage): In the study, it was found that 81.3% of productive cocoa farmers in Peninsular Malaysia have a land area of less than one hectare. In East Malaysia, most cocoa farmers have a land area of one to three hectarage (87.9%). These showed that cocoa farmers in East Malaysia have up to two to three times more trees than in Peninsular Malaysia if calculated based on optimum plant density (The optimum density of cocoa is between 1,600 - 3,000 trees/hectarage).

Source of Information: Most productive cocoa farmers receive information on cocoa technology through MCB's extension education agent, where 99.4% in Peninsular Malaysia, and 92.7% East Malaysia received extension agents' support.The use of scattered plots for Log TDS vs Na/(Na+Ca) and Log TDS vs Cl/(Cl+HCO3) (Gibbs, 1970) is used to interpret the effect of hydrogeochemical processes such as precipitation, rock–water interaction and evaporation on groundwater geochemistry. Figures 4 and 5 indicate that most points plotted in the region of rock-dominance and weathering zones, thus indicating precipitation derived from rock-water interaction (Nur *et al.*, 2012).

3.2 The most contribution skills towards WP of EAs as perceived by the productive cocoa growers in Peninsular and East Malaysia

3.2.1 Peninsular Malaysia

Social skills significantly affect EA job performance in Peninsular Malaysia as the obtained P value was less than 0.05 (sig=0.000). Table 3 shows that social skills were the skill that most influenced the performance of productive cocoa farmers in East Malaysia with the highest beta value (0.266) compared to other skills. According to Hislop (2013), face-to-face communication is the preferred means of communication, especially when there is a need to convey tacit information that cannot be effectively expressed in writing. Personal development is not effective enough without communication, assurance, empathy, listening, and other social skills, and motivational ability.

Table 3: Farm profile

Items	Peninsular Malaysia		East Malaysia		Frequency	Percentage (%)
	F	%	F	%		
Planting Start Year						
2010 – 2006	245	69.4	262	83.2	507	75.9
2005 - 2001	71	20.1	17	5.4	88	13.2
At/Before 2000	37	10.5	36	11.4	73	10.9
Numbers Clone Planting						
< 3 clones	46	13.0	183	58.1	229	34.3
3-5 clones	278	78.8	118	37.5	396	59.3
≥ 5 clones	29	8.2	14	4.4	43	6.4
Planting Area (Hectarage)						
<1	287	81.3	29	9.2	316	47.3
1-3	63	17.8	277	87.9	340	50.9
3.1-5	3	0.8	7	2.2	10	1.5
5.1-7	0	0.0	2	0.6	2	0.3
Source of Information						
MCB Officer	351	99.4	292	92.7	643	96.3
Family	30	8.5	105	33.3	135	20.2
Friends	114	32.3	153	48.6	267	40.0
Brochure	12	3.4	32	10.2	44	6.6
Radio	9	2.5	2	1.3	13	1.9
Newspaper	38	10.8	2	2.5	46	6.9
Internet	9	2.5	1	6.0	28	4.2
Others	3	0.8	0	0	3	1.3

In addition to social skills, the skill that significantly affects the performance of extension workers in Peninsular Malaysia is management skills with a P value of less than 0.05 (sig=0.005). Lack of leadership skills affects job performance. Leadership skills are increasingly important in many professions because they are an important variable in the dynamic environment of the workplace. Leadership skills in team activities can improve team performance because, without leaders who demonstrate leadership skills, group performance is lower. However, Gencer and Samur (2016) found that management skills are not competence factors but depend on the culture of different countries.

Technical skills are the third skill with a significant difference in the performance of extension workers in Peninsular Malaysia with a P value of less than 0.05 (sig=0.030). Technical skills of extension agents

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influence the performance of extension agents with a beta value of 0.139. This finding supports the results of Tiraieyar et al. (2008), Rahim (2010), Motolani et al. (2017) and Oluwatoyi (2019). Technical skills require information on agricultural practices, pesticide use, optimal use of fertilizers, mechanization of agriculture, and marketing of cocoa products.

Finally, decision support skills have a significant impact on the performance of extension agents in Peninsular Malaysia with a P value of less than 0.05 (sig = 0.048). This ability is also an important ability affecting the performance of extension agents with a beta value of 0.139 (Table 3).

3.2.2 East Malaysia

As a result, three skills were identified as influencing the performance of extensions in East Malaysia. Decision support ability significantly affects the performance of East Malaysia extension agents with P value less than 0.05 (sig=0.000). Table 4 also shows that decision support was the most important skill in the experience of cocoa farmers in East Malaysia, influencing extension agent efficiency, and obtaining the highest beta value (0.326).

The second skill was technical skills. As in Peninsular Malaysia, the importance of technical skills is integral to extension agent roles. Technical skills had a significant effect on the performance of extension workers in East Malaysia with a P value below 0.05 (sig=0.000) and its beta value of 0.292 indicated that technical skill affects extension performance.

The final skill that influenced the effectiveness of extension agents in East Malaysia was leadership skills. The importance of this ability was discussed in the previous section in Peninsular Malaysia. This ability is significantly different from the extension activity of cocoa farmers in East Malaysia with P ≤0.05 (sig=0.011). Table 4 also shows that in East Malaysia, leadership skills influenced extension actions with a beta value of 0.142. However, Gencer and Samur (2016) mentioned that the leadership skills of an individual do not have a direct relationship with his qualifications, but it depends on the country. Management skills are developed through educational background and experience (time). In other words, a good extension agent needs formal training (training) before assuming responsibility as an extension agent. However, in the absence of formal training in the enforcement agency, agencies must provide agents with higher education and sufficient opportunities for self-development to improve their management skills. Leadership skills can significantly improve work performance, like how leadership skills during group activities can improve team performance (Siewiorek et al., 2012).

Differences in abilities affecting the performance of extenders in each domain were determined using regression analysis. All these variations can be measured by the adjusted R^2 value obtained from the regression analysis. A performance prediction model of MCB extension agents in each area can be formed by percentage variation. As shown in the table of coefficients (Table 4), the model coefficient estimates for bo are 0.787, b1 is 0.142, b4 is 0.178, b5 is 0.118 and b6 is 0.231. As mentioned for Peninsular Malaysia (Yi), the model coefficient estimates for East Malaysia (Yii) are bo 0.704, b1 is 0.305, b4 is 0.141, and b5 is 0.333 (Table 4).

$$Yi = 0.787 + 0.142X1 + 0.178X4 + 0.118X5 + 0.231X6 + e$$
$$Yii = 0.704 + 0.305X1 + 0.141X4 + 0.333X5 + e$$

Where:
Yi= Work Performance of EA for Peninsular Malaysia
Yii= Work Performance of EA for East Malaysia
X1= Technical Skill (ToT)
X4= Leadership Skill (ToT)
X5= Decision Making Support Skill (HRD)
X6= Social Skill (HRD)
e = Error

In the regression model for Peninsular Malaysia, labor efficiency (Yi) would increase by 1 unit for every increase in technical skills (X1), managerial skills (X4), decision-making skills (X5), and social skills (X6). 0.142, 0.178, 0.118, and 0.231 units, respectively. In addition, the regression model for East Malaysia showed that for every 1 unit increase in technical skills (X1), managerial skills (X4), decision support skills (X5), and thus work efficiency (Yi), East Malaysia (Yi) increases by. 0.305, 0.141, and 0.333 units. The results of the analysis concluded that the social skills of human resource development components make the greatest contribution to the performance of East Malaysia extensions.

Although the R^2 value of 0.630 in Peninsular Malaysia meant that the four competencies explained about 63.0% (adjusted R^2 = 0.630, $p<0.05$) of the variance/variation in the effectiveness of extensions was explained by the competency model. This shows that these four capabilities are very important in determining the performance of extension services in Peninsular Malaysia. In comparison, an R^2 value of 0.511 in East Malaysia indicated that the three skill predictors explained approximately 51.1% (adjusted $R^2 = 0.511$, $p<0.05$) of the variance/variation in the effectiveness of extensions. The remaining 37.0% and 48.9% of the Peninsula and 48.9% of East Malaysia were affected by other capacities not identified in the efficiency model. However, Rahim (2010) emphasized that six skills are necessary to improve the performance of extensions in their tasks.

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3.3 The Most Performed Extension Agents between Areas

It also revealed that the four skills that affect the performance of extension workers in Peninsular Malaysia were social skills, management skills, technical skills, and decision-making skills. Four of these six skills were found to account for approximately 63.0% (Adj.R^2 = 0.630, p <0.05) of the total skill variation in MCB expander efficiency in Peninsular Malaysia (Table 5).

Table 4: Regression Analysis (Multiple Regressions) for Work Performance in Peninsular Malaysia

Variable	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta (β)		
Constant	.787	.177		4.437	.000
Technical Skill (ToT)	.142	.065	.139	2.178	.030
Technology Delivery Skill (ToT)	.051	.064	.051	0.800	.424
Technology Evaluation Skill (ToT)	.115	.062	.114	1.862	.063
Leadership Skill (HRD)	.178	.063	.199	2.826	.005
Decision Making Support Skill (HRD)	.118	.059	.118	1.987	.048
Social Skill (HRD)	.231	.052	.266	4.453	.000

R= 0.798, R^2= 0.637, Adjusted R^2= 0.630, Std Error of Estimate = 0.434
Statistically significant at 0.05 levels.

Table 5: Regression Analysis (Multiple Regressions) for Work Performance in East Malaysian

Variable	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta (β)		
Constant	.704	.236		2.985	.003
Technical Skill (ToT)	.305	.067	.292	4.531	.000
Technology Delivery Skill (ToT)	.045	.065	.046	.697	.487
Technology Evaluation Skill (ToT)	-.053	.060	-.053	-.876	.382
Leadership Skill (HRD)	.141	.055	.142	2.565	.011
Decision Making Support Skill (HRD)	.333	.068	.326	4.907	.000
Social Skill (HRD)	.082	.050	.093	1.625	.105

R= 0.722, R^2= 0. 521, Adjusted R^2= 0. 511, Std Error of Estimate = 0. 412
statistically significant at 0.05 levels.

In Peninsular Malaysia, one skill, social skills, was found to be inconsistent with the outcome in East Malaysia. In contrast, three skills (technical skills, management skills, and decision-making skills) produced results similar to those in East Malaysia and accounted for approximately 51.1% (Adj.R^2 = 0.511, p <0.05) of the variance in extension performance (Table 6).

The results showed that the multiple regression R^2 value of Peninsular Malaysia is higher than East Malaysia at 0.637 and 0.521. The difference is small as there was only a 0.116 (11.6%) difference in efficiency between Peninsular and East Malaysia extensions. The R^2 values of both regions showed that the R^2 of Peninsular Malaysia is closer to the data line (1.0) than East Malaysia.

This difference underscores a clear variation in how certain skills affect employment outcomes in Peninsular Malaysia and East Malaysia. The impact is noticeably stronger in Peninsular Malaysia compared to East Malaysia. This difference can be traced back to the number of skills considered in each area's analysis. Peninsular Malaysia considers four skills, while East Malaysia focuses on three. This variation in skill predictors contributes significantly to the observed differences in employment outcomes.

In line with these findings, Ramle (2012) also noted similar patterns. Despite using a similar approach to share knowledge and technology with farmers throughout Malaysia, there were substantial differences in how well farmers performed in different regions. Ramle's research supports the idea that local factors play a role in shaping the effects of skills on employment outcomes, interacting with the skill predictors used and leading to diverse results in different regions."

Table 6: Regression Analysis of Variables between East and Peninsular Malaysia

Areas	R	R Square	Adjusted R Square	Std. error of the Estimate
Peninsular Malaysia (Y_i)	0.798	0.637	0.630	0.434
East Malaysia (Y_{ii})	0.722	0.521	0.511	0.412

Social skills encompass an individual's manner of engaging with others in various interactions. Proficiency in social skills yields the potential to enhance an individual's quality of life and facilitate the attainment of personal objectives. These skills constitute learned behaviors that foster positive interpersonal connections, particularly concerning the articulation of shared emotions, navigation of personal boundaries, solicitation of assistance, and the tactful refusal of incongruent requests. A multitude of investigations underscores that extension agents allocate as much as 70% of their communication and engagement endeavors to interpersonal interactions. Notably, Hislop (2013) posits that direct, face-to-face communication emerges as the favored mode, particularly in circumstances necessitating the conveyance of implicit knowledge that defies effective articulation through written mediums. Devoid of adept communication proficiencies, alongside

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attributes like determination, empathy, attentive listening, and motivational capabilities, the efficacious management of human resources falls short of its potential efficacy.

Leadership skills are increasingly important in many professions because they are an important variable in the dynamic environment of the workplace. Leadership skills in team activities can improve team performance because, without leaders who demonstrate leadership skills, group performance is lower. However, Gencer and Samur (2016) mentioned that the leadership ability of an individual is not directly correlated with his competence but depends on different cultural clusters. Management skills are developed through educational background and experience (time). In other words, a good extension agent needs formal training (training) before assuming responsibility as an extension agent. However, in the absence of formal training in the enforcement agency, agencies must provide agents with higher education and sufficient opportunities for self-development to improve their management skills. Leadership skills can significantly improve work performance, like how leadership skills during group activities can improve team performance (Siewiorek et al., 2012).

According to the findings, cocoa farmers in Peninsular Malaysia recognized that certain skills significantly impact the effectiveness of extension workers, namely social skills, management skills, technical skills, and decision-making skills. Conversely, productive cocoa farmers in East Malaysia concurred that decision support skills, technical skills, and management skills play pivotal roles in enhancing the performance of the extension agency within Peninsular Malaysia. Considering these outcomes, agricultural extension entities ought to scrutinize their existing policies to bolster the dedication of extension workers to their job roles and their alignment within the organizational framework (Khalil et al., 2008). Consequently, there emerges a pronounced imperative for the MCB to direct its efforts toward cultivating skills capable of elevating the performance of development agents in East Malaysia, thereby catalysing heightened agricultural productivity.

To elucidate, it became evident that the entirety of the six competencies under consideration did not wholly account for the variance in the extension agent's performance across all domains. The outcomes derived from regression models indicated that the empirical data did not lend comprehensive support to the proposed set of six predictors. However, Rahim (2010) highlighted in his research that these six competencies stand as imperative constituents for enhancing the performance of extensions within their designated responsibilities.

The outcomes of this inquiry hold significance in shaping the application of the iceberg theory within the strategic planning of MCB's agricultural initiatives. This study has served to fortify the model through the augmentation of knowledge and competencies among MCB's extension agents in the realms of ToT and HRD. Furthermore, the efficacy framework of the development office has aptly demonstrated that the attributes and requisites essential for augmenting work outcomes exhibit distinct variations within each particular subfield. This underscores the necessity for organizations to meticulously evaluate the competency requirements of their extension personnel, thereby ensuring that the rendered training interventions foster skill enhancement and concomitant improvements in job performance. The administration of inappropriate or irrelevant training regimens to extension operators stands not only as an unproductive expenditure of institutional resources but also squanders valuable time.

The higher percentage of extensions in Peninsular Malaysia was due to the share of previously acquired extensions from the transfer of technology development to extensions in Peninsular Malaysia. Based on history, Peninsular Malaysia R&D was established earlier than East Malaysia. Cocoa R&D started from the Malaysian Agricultural Research and Development Institute (MARDI) after the Department of Agriculture (DOA) took over the role. When MCB was established on 18 July 1989 (MCB, 2018a), the existing DOA extension was absorbed into MCB where they continued to develop cocoa. This improved the operational efficiency of the MCB and the efficiency of extenders in Peninsular Malaysia was higher than in East Malaysia and continues to this day.

The next reason is adequate logistics (eg heavy trucks and roads) which allows extension programs to be implemented better in Peninsular Malaysia than in East Malaysia. These vehicles facilitated and increased the direct meeting of the fillers with the cocoa farmers who produced the cocoa. This helped to improve the performance of extensions in their tasks. The problem of accessibility is a much bigger problem in East Malaysia than in Peninsular Malaysia.

Finally, extension agency employment is higher in Peninsular Malaysia than in East Malaysia because of farm size in Peninsular Malaysia (less than 1 Hectarage) is smaller than in East Malaysia (1–3 Hectarage) (Table 2). In a few ways, sizes have made it easier for extension workers to monitor and implement agricultural extensions.

4. CONCLUSION

In summary, the performance of extension workers exhibited variations between the two regions, aligned with the disparities in cocoa productivity. The coefficients derived from the Peninsular Malaysia extension performance model underscored the significance of specific competencies for optimal work performance, including technology transfer skills, technology evaluation skills, decision support skills, and social skills. In contrast, in East Malaysia, proficient technical skills, management skills, and decision-making skills were identified as key

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contributors in the extension agent performance model. Notably, the results underscored the predominant influence of social skills and decision-making skills in both Peninsular Malaysia and East Malaysia on the overall performance of extension workers.

Additionally, concerning another research objective, the findings demonstrated that extension workers in Peninsular Malaysia outperformed their counterparts in East Malaysia, as perceived by productive cocoa farmers. This discernible discrepancy could be attributed to the distinct array of four and three predictive competencies embraced by the Peninsular and East Malaysia regions, respectively.

In terms of actionable recommendations, there is room for enhancing general development services, particularly in the realm of appraising the performance of MCB extension agents. One viable approach could involve implementing the 360-degree feedback evaluation method, which offers a comprehensive assessment of agricultural extension performance across diverse regions. This assessment mechanism would involve soliciting input from various stakeholders, encompassing feedback from superiors, subordinates, and peers, thereby facilitating a holistic evaluation of extension performance.

Subsequently, agricultural agencies are advised to formulate tailored training courses aligned with the specific skill demands of extension workers, aimed at augmenting their job performance and, consequently, boosting cocoa productivity indirectly. The establishment of a mentoring program, supplemented by periodic performance evaluations and updates categorized by regional considerations, can be instrumental in providing targeted training. Given the contextual diversity inherent in different regions, such an approach ensures precision and relevance. Moreover, an expansion in the ranks of qualified agricultural extension workers, orchestrated by the Ministry of Agriculture, holds promise in optimizing the provision of necessary support to farmers across regions.

The findings gleaned from this study should serve to guide policymakers towards channeling efforts into cultivating the requisite knowledge and skills within the agricultural workforce, thereby engendering a cadre of proficient agricultural practitioners. This study underscores the importance of reinforcing extension agents' awareness of their roles and responsibilities to foster improved job performance.

Looking ahead to future research endeavors, strategies for training and capacity-building should encompass dimensions such as leadership skills, problem-solving acumen, and decision-making capabilities. By incorporating these facets, training initiatives can holistically elevate knowledge, skills, and technical proficiency in agricultural extension, thereby augmenting the collective capacity of both extension workers and farmers to effectively manage the agricultural sector.

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